Amendment and Response
Applicant: Cory Watkins
Serial No.: 10/623,282
Filed: July 18, 2003
Docket No.: A126.112.102
Title: INSPECTION TOOL WITH PARTIAL FRAMING/WINDOWING CAMERA

IN THE CLAIMS

Please cancel claims 4 and 13.

Please amend claims 1, 5-8, 14-16, and 18-20 as follows:

1.(Currently Amended)   An inspection system including at least a camera with the ability to selectively readout a number of rows and columns, wherein the inspection system is configured to inspect semiconductor substrates.

2.(Original)   The inspection system of claim 1, further comprising a controller that programs the camera to readout a specified number of rows and columns.

3.(Original)   The inspection system of claim 2, wherein the camera includes an imager having a first number of rows and columns, and wherein the specified number of rows and columns is less than the first number of rows and columns.

4.(Cancelled)

5.(Currently Amended)   The inspection system of claim 3̶4, wherein the semiconductor substrates comprise a plurality of semiconductor die, and wherein the controller is configured to program the camera to readout the specified number of rows and columns based on a size of the semiconductor die or pattern.

6.(Currently Amended)   The inspection system of claim 5, wherein the size of the semiconductor die or pattern is less than a field of view of the camera.

7.(Currently Amended)   The inspection system of claim 5, wherein the size of the semiconductor die or pattern is greater than a field of view of the camera.

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8.(Currently Amended)   An inspection device including at least a camera with the ability to selectively readout pixels of an imager of the camera, wherein the inspection device is configured to inspect semiconductor substrates.

9.(Original)   The inspection device of claim 8, wherein the camera has the ability to selectively readout pixels in two axes of the imager.

10.(Original) The inspection device of claim 8, further comprising a controller that programs the camera.

11.(Original) The inspection device of claim 10, wherein the controller programs the camera to readout a 2D window of pixels of the imager.

12.(Original) The inspection device of claim 11, wherein the 2D window includes a lesser number of pixels than a total number of pixels of the imager.

13.(Cancelled)

14.(Currently Amended)   The inspection device of claim 11~~13~~, wherein the semiconductor substrates comprise a plurality of semiconductor die, and wherein the controller is configured to program the camera to readout the 2D window of pixels based on a size of the semiconductor die~~ or pattern~~.

15.(Currently Amended)   The inspection device of claim 14, wherein the size of the semiconductor die~~ or pattern~~ is less than a field of view of the camera.

16.(Currently Amended)   The inspection device of claim 14, wherein the size of the semiconductor die~~ or pattern~~ is greater than a field of view of the camera.

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17.(Original) An automated method of inspecting a plurality of semiconductor die, the method comprising:

    providing a camera including an imager;

    capturing image frames of the plurality of semiconductor die with the imager, each captured frame including a first number of rows of pixels and a second number of columns of pixels;

    reading out pixel data from the imager for each captured frame, the pixel data for each captured frame including a third number of rows of pixels that is less than the first number of rows of pixels and a fourth number of columns of pixels that is less than the second number of columns of pixels; and

    identifying defects in the plurality of semiconductor die based on the pixel data read out from the imager.

18.(Currently Amended)   The method of claim 17, and further comprising:

    programming the camera to read out the number of rows of pixels and the number of columns of pixels based on a size of the semiconductor die ~~or~~ ~~pattern~~.

19.(Currently Amended)   The method of claim 17, wherein a size of each of the semiconductor die ~~or pattern~~ is less than a field of view of the camera.

20.(Currently Amended)   The method of claim 17, wherein a size of each of the semiconductor die ~~or pattern~~ is greater than a field of view of the camera.